Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A method of reducing a blocking artifact appearing when coding a moving picture, comprising the steps of:

defining pixels, S_0, S_1, and S_2 centering around a block boundary;

obtaining a mode determination value to selectively determine a deblocking mode as a default mode or a DC offset mode in accordance with a degree of the blocking artifact;

obtaining frequency information of the surroundings of the block boundary for each pixel, using a 4-point kernel, if the default mode is determined;

adjusting a magnitude of a discontinuous component, belonging to the block boundary, to the minimum value of a magnitude of a discontinuous component, belonging to the surrounding of the block boundary, in a frequency domain, and applying said adjusting operation to a spatial domain; and

reducing the blocking artifact in a smooth region where there is little motion, such as a setting, if the DC offset mode is determined.

2. (Previously Presented) The method according to claim 1, wherein the obtaining through adjusting steps are performed in the default mode.

3. (Previously Presented) The method according to claim 1, wherein a magnitude of the discontinuous component in the S_0 pixel is adjusted to a magnitude of the corresponding component in a second pixel, wherein the magnitude of the corresponding component in the second pixel is based on a smallest value of corresponding component magnitudes in the S_1 and S_2 pixels.

4. (Previously Presented) The method according to claim 3, wherein the adjusting step satisfies at least one of the following conditions:

$$v_3' = v_3 - d; \text{ and}$$

$$v_4' = v_4 + d; \text{ where } d = \mathrm{CLIP}\ (c_2(a_{3,0}' - a_{3,0})//c_3, 0, (v_3 - v_4)/2)*\delta(|a_{3,0}| < QP),$$

$$a_{3,0}' = \mathrm{SIGN}(a_{3,0})*\mathrm{MIN}(|a_{3,0}|, |a_{3,1}|, |a_{3,2}|),$$

wherein v_3 - v_4 are initial boundary pixel values, v_3' - v_4' are adjusted boundary pixel values, $a_{3,0}$ - $a_{3,2}$ are the discontinuous component of the discrete cosine transform coefficients of the S_0, S_1 and S_2 pixels, c_2 and c_3 are DCT kernel coefficients and QP is a quantization parameter of a macroblock containing v_4.

5. (Previously Presented) The method according to claim 3, wherein the S_1 and S_2 pixels are positioned within a block adjacent the block boundary.

6. (Previously Presented) The method according to claim 1, further comprising:

determining a smoothness level of the plurality of pixels; and

selecting one of the default mode and the DC offset mode based on the smoothness level, wherein the blocking artifact is reduced based on the selected mode.

7. (Previously Presented) The method according to claim 6, wherein the DC offset mode is selected when the following condition is satisfied: $(v_0 == v_1 \&\& v_1 == v_2 \&\& v_2 == v_3 \&\& v_4 == v_5 \&\& v_5 == v_6 \&\& v_6 == v_7)$, wherein v_0 - v_7 are boundary pixel values.

8. (Previously Presented) The method according to claim 6, wherein in the DC offset mode is selected for a region of the motion picture where there is little motion.

9. (Original) The method according to claim 8, wherein the adjusting step prevents over-smoothing when the blocking artifact is not very serious and counts an effect of a quantization parameter.

10. (Previously Presented) The method according to claim 6, wherein the adjusting step in the DC offset mode satisfies at least one of the following conditions:

$v_3' = v_3 - d;$

$v_4' = v_4 + d;$

$v_2' = v_2 - d_2$;

$v_5' = v_5 + d_2$;

$v_1' = v_1 - d_3$; and

$v_6' = v_6 + d_3$, where $d_1 = (3(v_3 - v_4)//8)*\delta(|a_{3,0}|\langle QP)$,

$d_2 = (3(v_3 - v_4)//16)*\delta(|a_{3,0}|\langle QP)$, and

$d_3 = (3(v_3 - v_4)//32)*\delta(|a_{3,0}|\langle QP)$, wherein $v_0 - v_7$ are initial boundary pixel values, $v_1' - v_6'$ are adjusted boundary pixel values, $a_{3,0}$ is the discontinuous component of the discrete cosine transform coefficients of a first pixel belonging at the block boundary and QP is a quantization parameter of a macroblock containing v_4.

12. (Previously Presented) The method according to claim 11, wherein the S_0, S_1, and S_2 pixels are centered around the block boundary, and wherein corresponding DCT coefficients are determined by an inner product of the DCT kernel and the pixels, S_0, S_1, and S_2.

13. (Previously Presented) The method according to claim 1, wherein the S_0, S_1 and S_2 pixels are a plurality of pixels centered around the block boundary.

14-20. Canceled

21. (Previously Presented) A method of reducing a blocking artifact appearing when coding a moving picture, comprising:

selecting a plurality of pixels;

obtaining frequency information for each of the plurality of pixels;

adjusting a discontinuous component in a frequency domain of a first pixel of the plurality of pixels based on a corresponding component in the frequency domain of a second pixel of the plurality of pixels; and

applying the adjusting operation to a spatial domain of the first pixel to reduce a blocking artifact.

22. (Previously Presented) The method according to claim 21, wherein a magnitude of the discontinuous component in the first pixel is adjusted to a magnitude of the corresponding component in the second pixel, wherein the magnitude of the corresponding component in the second pixel is based on a smallest value of corresponding component magnitudes in remaining pixels of the plurality of pixels.

23. (Previously Presented) The method according to claim 22, wherein the adjusting step satisfies at least one of the following conditions:

$v_3' = v_3 - d$; and

$v_4' = v_4 + d$;. where $d = \text{CLIP}\ (c_2(a_{3,0}' - a_{3,0})//c_3, 0, (v_3 - v_4)/2) * \delta(|a_{3,0}| \langle QP)$, $a_{3,0}' = \text{SIGN}(a_{3,0}) * \text{MIN}(|a_{3,0}|, |a_{3,1}|, |a_{3,2}|)$, wherein $v_3 - v_4$ are initial pixel values, $v_3' - v_4'$ are adjusted pixel values, $a_{3,0} - a_{3,2}$ are the discontinuous component of the discrete cosine transform coefficients of the first and second pixels, c_2 and c_3 are DCT kernel coefficients and QP is a quantization parameter of a macroblock containing v_4.

24. (Previously Presented) The method according to claim 21, further comprising:

determining a smoothness level of the plurality of pixels; and

selecting one of a first and a second mode based on the smoothness level, wherein the blocking artifact is reduced based on the selected mode, wherein the second mode is selected when the following condition is satisfied: $(v_0 == v_1 \&\& v_1 == v_2 \&\& v_2 == v_3 \&\& v_4 == v_5 \&\& v_5 == v_6 \&\& v_6 == v_7)$, wherein $v_0 - v_7$ are pixel values.

25. (Previously Presented) The method according to claim 24, wherein the adjusting step in the second mode satisfies at least one of the following conditions:

$v_3' = v_3 - d$;

$v_4' = v_4 + d$;

$v_2' = v_2 - d_2$;

$v_5' = v_5 + d_2$;

$$v_1' = v_1 - d_3; \text{ and}$$

$$v_6' = v_6 + d_3,$$

where

$$d_1 = (3(v_3 - v_4)//8)*\delta(|a_{3,0}|\langle QP),$$

$$d_2 = (3(v_3 - v_4)//16)*\delta(|a_{3,0}|\langle QP), \text{ and}$$

$$d_3 = (3(v_3 - v_4)//32)*\delta(|a_{3,0}|\langle QP),$$

wherein v_0 - v_7 are initial pixel values, v_1' - v_6' are adjusted pixel values, $a_{3,0}$ is the discontinuous component of the discrete cosine transform coefficients of the first pixel and QP is a quantization parameter of a macroblock containing v_4.--

26. (New) An apparatus for reducing a blocking artifact appearing when coding a moving picture, comprising:

means for selecting a plurality of pixels;

means for obtaining frequency information for each of the plurality of pixels;

means for adjusting a discontinuous component in a frequency domain of a first pixel of the plurality of pixels based on a corresponding component in the frequency domain of a second pixel of the plurality of pixels; and

means for applying the adjusting operation to a spatial domain of the first pixel to reduce a blocking artifact.